

Attorney's Docket: 2002DE138
Serial No.: 10/684,624
Group: 1711

REMARKS

The Office Action mailed September 22, 2004 has been carefully considered together with each of the references cited therein. The amendments and remarks presented herein are believed to be fully responsive to the Office Action. The amendments made herein are fully supported by the Application as originally filed. No new matter has been added. Accordingly, reconsideration of the present Application in view of the above amendments and following remarks is respectfully requested.

CLAIM STATUS

Claims 1-15 are pending in this Application. By this Amendment, claims 1-15 have been amended, while new claims 16-24 have been added to further clarify the subject matter which Applicants regard as the invention. Claims 1 through 24 are, therefore, under consideration.

Claim Rejections Under 35 USC § 102

Claims 1-15 stand rejected under 35 USC § 102(e) as being anticipated by Eilbracht et al. (6,380,273), under 35 USC § 102(b) as being anticipated by DE-199 27 548 A1, and under 35 USC § 102(b) as being anticipated by Shim (3,989,652). These rejections are respectfully overcome.

Applicants' invention, as defined by amended independent claim 1, is directed to a process for improving the aging resistance of a flame-retardant flexible polyurethane foam, comprising the step of adding to polyurethane foam a mixture composed of hydroxyalkyl phosphonates and chlorinated phosphoric esters. Independent claims 8 and 9 are both directed to a process for preparing flame-retardant flexible polyurethane foams with high aging resistance by reacting an organic polyisocyanate with a compound having at least two hydrogen atoms reactive toward isocyanates, in the presence of halogen-free hydroxyalkyl phosphonates of the formula I and chlorinated phosphoric esters (claim 8) or a

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mixture of halogen-free hydroxyalkyl phosphonates of the formula I and chlorinated phosphoric esters (claim 9).

As detailed in the specification, Applicants have advanced the art by providing a polyurethane foam having improved aging resistance. As stated on page 3 of the specification:

It is an object of the present invention to provide a reduced-halogen-content, low-emission polyurethane foam which, when compared with a halogen-free flame-retardant polyurethane foam, has improved resistance to hydrolysis aging, and, when compared with a prior-art polyurethane foam, has lower halogen content.

The object of the invention is achieved by way of flame-retardant flexible polyurethane foams with high aging resistance, which comprise a mixture composed of hydroxyalkyl phosphonates and chlorinated phosphoric esters.

Each of the references cited in the Office's § 102 rejection do not speak to the problem of aging resistance in polyurethane foams. In consequence, Eilbracht, DE '548 and Shim can not anticipate the presently claimed invention as none of the reference disclose, teach or suggest a process for improving the aging resistance of a polyurethane foam.

For at least this reason, Applicants courteously believe that the claims 1-15 are not anticipated by Eilbracht, DE '548 or Shim. Reconsideration and withdrawal of the § 102 rejections is, therefore, respectfully solicited.

Claim Rejections Under 35 USC § 103

Claims 1-15 stand rejected under 35 USC § 103(a) as being unpatentable over Shim in view of Sicken (5,728,746). This rejection is respectfully overcome.

Applicants' position detailed above with respect to the § 102 rejections are equally applicable here. Specifically, neither Shim nor Sicken disclose, teach or suggest a method for improving the aging resistance of a polyurethane foam. Both Shim and Sicken speak to the issue of flame retardancy, but are silent concerning the problem of aging resistance.

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As a § 103 rejection requires the prior art to disclose each and every element of a claimed invention, it is Applicants' courteous position that a combination of Shim in view of Sicken does not render the claimed invention obvious as neither reference provides any motivation for one with ordinary skill in the art to arrive at the conclusion that the claimed halogen-free hydroxyalkyl phosphonates and chlorinated phosphoric esters lead to improved aging resistance in polyurethane foams. In consequence, Applicants respectfully solicit reconsideration and withdrawal of the § 103 rejection.

The Commissioner is hereby authorized to charge deposit account 03-2060 \$800.00 for the additional three independent and four dependent claims. The Commissioner is also authorized to credit any overpayment or charge any fee deficiency to Deposit Account No. 03-2060.

In view of the forgoing amendments and remarks, the present application is believed to be in condition for allowance, and reconsideration of it is requested. If the Examiner disagrees, he is requested to contact the attorney for Applicants at the telephone number provided below.

Respectfully submitted,


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